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Rohm and Haas Electronic Materials
CMP Holdings, Inc.
Suite 1300
1105 North Market Street
Wilmington, DE 19899

EXAMINER

ROSSI, JESSICA

ART UNIT PAPER NUMBER

1733

DATE MAILED: 12/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/788,951

Applicant(s)

BOLDIZAR ET AL.

Examiner

Jessica L. Rossi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/4/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Swisher et al. (US 6477926).

With respect to claim 1, Swisher teaches a method of making a layered polishing pad 7/9 by forming a first double-sided adhesive layer (not shown; column 19, lines 6-8) on a bottom surface of a subpad 39, forming a second double-sided adhesive layer 36/48 on a top surface of the subpad 39, providing a polishing pad layer 11 having a lower surface, and adhering the polishing pad layer to the subpad by pressing the polishing pad layer lower surface against the second adhesive layer 36/48 (Figures 1-2; column 17, lines 34-67; column 18, line 27 – column 19, line 8).

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Kodaka et al. (US 2005/0150594).

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With respect to claim 1, Kodaka teaches a method of making a layered polishing pad 200 by forming a first double-sided adhesive layer 207 on a bottom surface of a subpad 205, forming a second double-sided adhesive layer 203 on a top surface of the subpad 205 (column 18, lines 29-32), providing a polishing pad layer 201 having a lower surface 213, and adhering the polishing pad layer to the subpad by pressing the polishing pad layer lower surface 213 against the second adhesive layer 203 (note terms like ‘top’, ‘upper’, ‘bottom’ and ‘lower’ are relative – especially since one skilled in the art would readily appreciate that the layered polishing pad shown in Figure 7 of the present invention would actually be turned upside down when in use since the layer of adhesive 20 bonds the layered polishing pad to a polishing machine; therefore, when Figures 3A-B of Kodaka are compared to an upside-down Figure 7 of the present invention, it is clear that Kodaka’s layer 207 corresponds to layer 20 of the present invention, Kodaka’s layer 203 corresponds to layer 30 of the present invention and so on – also refer to sections [0032-0033, 0035, 0037] of Kodaka).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Swisher as applied to claim 1 above and further in view of the collective teachings of Sawamoto et al. (US 5318835) and Luhmann et al. (US 5897949).

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Regarding claim 3, Swisher teaches the adhesive layers being contact adhesives, which are PSA's (column 18, lines 27-48; column 19, lines 6-8), but is silent as to them being laminated onto their respective surfaces of the subpad.

Selection of a particular method for forming the adhesive layers on the subpad would have been within purview of the skilled artisan; however, it would have been obvious to the skilled artisan to laminate the PSA layers of Swisher to their respective surfaces of the subpad because it is known in the adhesive art to laminate PSA layers on opposing surfaces of a substrate, as taught by the collective teachings of Sawamoto (abstract; column 7, lines 45-52) and Luhmann (column 8, lines 50-60).

7. Claim 4 rejected under 35 U.S.C. 103(a) as being unpatentable over Swisher and the collective teachings of Sawamoto and Luhmann as applied to claim 3 above, and further in view of Chumbley et al. (US 5716687).

Regarding claim 4, Swisher in view of the collective teachings is silent as to providing the material for the subpad and the adhesive layers in roll-good form. It would have been obvious to provide the material for the subpad and adhesive layers in roll-good form because such is well known and conventional when laminating PSA adhesive layers onto one or both sides of a substrate, as taught by Chumbley (Figure 6; column 3, lines 12-13; column 5, lines 11-16 and 29-35), and such allows for a continuous process.

8. Claims 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swisher as applied to claim 1 above and further in view of the collective teachings of Sawamoto et al. and Luhmann et al., and optionally in view of Kodaka.

Regarding claim 10, all the limitations were addressed above with respect to claim 1 except sequentially forming the adhesive layers of Swisher on opposing surfaces of the subpad 39 before bonding the polishing pad 11 thereto. Swisher teaches forming the adhesive layer 36/48 on the top surface of the subpad (column 18, lines 29-32) before forming the adhesive layer on the bottom surface of the subpad (column 19, lines 6-8) and before bonding the polishing pad to the subpad, but is silent as to forming the adhesive layer on the bottom surface of the subpad before bonding the polishing pad to the subpad.

Selection of a particular sequence of steps for forming the adhesive layers on the subpad and bonding the polishing pad to the subpad would have been within purview of the skilled artisan. However, it would have been obvious to sequentially form the adhesive layers on the subpad of Swisher and then bond the subpad to the polishing pad because it is known in the lamination art to sequentially form PSA layers on opposing surfaces of a substrate and then bond the substrate to another substrate, as taught by the collective teachings of Sawamoto (abstract; column 7, lines 45-52) and Luhmann (column 8, lines 50-60). Optional motivation to form the PSA layers on opposing surfaces of the subpad of Swisher before bonding the subpad to the polishing pad is provided by the teaching of Kodaka (Figures 3A-3B).

Regarding claim 5, the previous paragraph establishes that Swisher in view of the collective teachings and optionally Kodaka teaches performing all of the method steps set forth in claim 1 in the order presented except forming the adhesive layer on the bottom surface of the subpad before forming the adhesive layer 36/48 on the top surface of the subpad. Selection of which surface of the subpad to form the adhesive layer on first would have been within purview of the skilled artisan since only the expected results would have been achieved.

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9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kodaka as applied to claim 1 above and further in view of the collective teachings of Sawamoto et al. and Luhmann et al.

Regarding claim 3, Kodaka teaches the adhesive layers being PSA (section [0037]) but is silent as to them being laminated onto their respective surfaces of the subpad. The examiner would like to point out that the subpad of Kodaka can be made from a variety of materials including foam (sections [0033]).

Selection of a particular method for forming the adhesive layers on the subpad would have been within purview of the skilled artisan; however, it would have been obvious to the skilled artisan to laminate the PSA layers of Kodaka to their respective surfaces of the subpad because it is known in the adhesive art to laminate PSA layers on opposing surfaces of a foam substrate, as taught by the collective teachings of Sawamoto (abstract; column 7, lines 45-52) and Luhmann (column 8, lines 50-60).

10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kodaka and the collective teachings of Sawamoto and Luhmann as applied to claim 3 above, and further in view of Chumbley et al.

Regarding claim 4, Kodaka is silent as to providing the material for the subpad and the adhesive layers in roll-good form. It would have been obvious to provide the material for the subpad and adhesive layers in roll-good form because such is well known and conventional when laminating PSA adhesive layers onto one or both sides of a substrate, as taught by Chumbley (Figure 6; column 3, lines 12-13; column 5, lines 11-16 and 29-35), and such allows for a continuous process.

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11. Claims 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kodaka as applied to claim 1 above and further in view of the collective teachings of Sawamoto et al. and Luhmann et al.

Regarding claim 10, all the limitations were addressed above with respect to claim 1 except sequentially forming the adhesive layers 207, 203 of Kodaka on opposing surfaces of the subpad 205 before securing the polishing pad 201 to the subpad 205. Kodaka teaches forming the adhesive layers on opposing surfaces of the subpad before securing the polishing pad thereto (Figures 3A-C) but is silent as to sequentially forming the adhesive layers. The examiner would like to point out that the subpad of Kodaka can be made from a variety of materials including foam (sections [0033]) while the adhesive layers can be PSA (section [0037]).

Selection of a particular method for forming the adhesive layers on the subpad, whether they are formed sequentially or simultaneously, would have been within purview of the skilled artisan. However, it would have been obvious to sequentially form them on the subpad of Kodaka because it is known in the lamination art to sequentially form PSA layers on opposing surfaces of a foam substrate, as taught by the collective teachings of Sawamoto (abstract; column 7, lines 45-52) and Luhmann (column 8, lines 50-60).

Regarding claim 5, all the limitations were addressed above with respect to claims 1 and 10, except forming the adhesive layer 207 before forming adhesive layer 203. Selection of which surface of the subpad to form the adhesive layer on first would have been within purview of the skilled artisan since only the expected results would have been achieved.

12. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Komukai et al. (US 2003/0171081) in view of Swisher and/or Kodaka.

With respect to claim 1, Komukai teaches a layered polishing pad comprising a first double-sided adhesive layer 14 on a bottom surface of a subpad 13, a second double-sided adhesive layer 12 on a top surface of the subpad, a polishing pad layer 10 having a lower surface, and the polishing pad layer adhered to the subpad by means of the second adhesive layer (Figure 1, sections [0047, 0061, 0077]). The reference fails to disclose a particular bonding order for the various layers and the skilled artisan would have appreciated this being so because the reference is only concerned with how the polishing pad 10 and its window 2 are integrally formed before the polishing pad is assembled with the other layers to form the layered polishing pad.

Selection of a particular bonding order for the layers would have been within purview of the skilled artisan; however, it would have been obvious to use a bonding process that comprises such steps as forming the first adhesive layer 14 on the bottom surface of the subpad, forming the second adhesive layer 12 on the top surface of the subpad and adhering the polishing pad to the subpad by pressing the polishing pad lower surface against the second adhesive layer because such is known in the art as a process for forming layered polishing pads, as taught by Swisher (see paragraph 2 above for complete discussion) and/or Kodaka (see paragraph 4 above).

13. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Komukai in view of Swisher and/or Kodaka as applied to claim 1 above and further in view of the collective teachings of Sawamoto et al. and Luhmann et al.

Regarding claim 3, Komukai teaches the adhesive layers being PSA (section [0047]) but is silent as to them being laminated onto their respective surfaces of the subpad. The examiner would like to point out that the subpad 13 of Komukai can be made from a variety of materials including foam (section [0047]).

Selection of a particular method for forming the adhesive layers on the subpad would have been within purview of the skilled artisan; however, it would have been obvious to the skilled artisan to laminate the PSA layers of Komukai to their respective surfaces of the subpad because it is known in the adhesive art to laminate PSA layers on opposing surfaces of a foam substrate, as taught by the collective teachings of Sawamoto (abstract; column 7, lines 45-52) and Luhmann (column 8, lines 50-60).

14. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Komukai, Swisher and/or Kodaka and the collective teachings of Sawamoto and Luhmann as applied to claim 3 above, and further in view of Chumbley et al.

Regarding claim 4, Komukai is silent as to providing the material for the subpad and the adhesive layers in roll-good form. It would have been obvious to provide the material for the subpad and adhesive layers in roll-good form because such is well known and conventional when laminating PSA adhesive layers onto one or both sides of a substrate, as taught by Chumbley (Figure 6; column 3, lines 12-13; column 5, lines 11-16 and 29-35), and such allows for a continuous process.

15. Claims 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komukai in view of Swisher and/or Kodaka as applied to claim 1 above and further in view of the collective teachings of Sawamoto et al. and Luhmann et al, and optionally in view of Kodaka.

Regarding claim 10, all the limitations were addressed above with respect to claim 1 except sequentially forming the adhesive layers of Komukai on opposing surfaces of the subpad 13 before bonding the polishing pad 10 thereto. It is noted that Swisher teaches forming the adhesive layer 36/48 on the top surface of the subpad 39 (column 18, lines 29-32) before forming

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the other adhesive layer (not shown) on the bottom surface of the subpad (column 19, lines 6-8) and before bonding the polishing pad 11 to the subpad, but is silent as to forming the adhesive layer on the bottom surface of the subpad before bonding the polishing pad to the subpad. It is also noted that Kodaka teaches forming both the first and second adhesive layers 207, 203 on their respective surfaces of the subpad 205 before bonding the polishing pad 201 thereto but is silent as to sequentially forming the first and second adhesive layers (Figures 3A-3B).

Selection of a particular sequence of steps for forming the adhesive layers on the subpad and bonding the polishing pad to the subpad would have been within purview of the skilled artisan. However, it would have been obvious to sequentially form the adhesive layers on the subpad of Komukai and then bond the subpad to the polishing pad because it is known in the lamination art to sequentially form PSA layers on opposing surfaces of a substrate and then bond the substrate to another substrate, as taught by the collective teachings of Sawamoto (abstract; column 7, lines 45-52) and Luhmann (column 8, lines 50-60). Optional motivation to form the PSA layers on opposing surfaces of the subpad of Komukai before bonding the subpad to the polishing pad is provided by the teaching of Kodaka (Figures 3A-3B).

Regarding claim 5, the previous paragraph establishes that Komukai in view of Swisher and/or Kodaka and further in view of the collective teachings of Sawamoto and Luhmann teach performing all of the method steps set forth in claim 1 in the order presented except forming the adhesive layer 14 on the bottom surface of the subpad before forming the adhesive layer 12 on the top surface of the subpad. Selection of which surface of the subpad to form the adhesive layer on first would have been within purview of the skilled artisan since only the expected results would have been achieved.

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16. Claims 2, 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komukai in view of Swisher and/or Kodaka and further in view of the collective teachings of Sawamoto and Luhmann as applied to claim 10 above and further in view of Beaudry (US 6676501).

Regarding claim 6, all the limitations were addressed with respect to claim 10 above except laminating the first and second adhesives onto their respective surfaces of the subpad, forming the opening through the adhesive layers and subpad before securing the polishing pad to the subpad, and the polishing pad having a window formed therein such that the window is aligned to the opening. Komukai teaches the adhesive layers and subpad having an opening, the polishing pad having a window 2 and aligning the window to the opening (Figure 1) but is silent as to the rest of the limitations.

Selection of a particular sequence of steps for forming the adhesive layers on the subpad and bonding the polishing pad to the subpad would have been within purview of the skilled artisan. However, it would have been obvious to laminate the adhesive layers on the subpad of Komukai and then bond the subpad to the polishing pad because it is known in the lamination art to laminate PSA layers on opposing surfaces of a substrate and then bond the substrate to another substrate, as taught by the collective teachings of Sawamoto (abstract; column 7, lines 45-52) and Luhmann (column 8, lines 50-60). Optional motivation to laminate the PSA layers on opposing surfaces of the subpad of Komukai before bonding the subpad to the polishing pad is provided by the teaching of Kodaka (Figures 3A-3B).

Furthermore, it would have been obvious to form the opening through the adhesive layers and subpad after they are laminated to each other but before the polishing pad is bonded thereto

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because it is known in the polishing pad art to bond adhesive and pad layers and then cut the bonded laminate, as taught by Beaudry (abstract; Figure 6a; column 3, lines 1-5 and 29-30 and 40-45; column 4, lines 32-35), where this eliminates having to form the opening once the subpad is bonded to the polishing pad thereby eliminating the chance of damaging the window formed in the polishing pad during such a forming step.

Regarding claim 2, all the limitations were addressed above with respect to claim 6.

Regarding claim 9, all the limitations were addressed above with respect to claims 6 and 10 except the window and opening forming an optical path that includes no adhesive. Komukai teaches such (Figure 1; note Figure 1 of Komukai is identical to Figure 7 of present invention).

17. Claims 7-8 rejected under 35 U.S.C. 103(a) as being unpatentable over Komukai in view of Swisher and/or Kodaka and further in view of the collective teachings of Sawamoto and Luhmann and also Beaudry as applied to claim 6 above and further in view of Chumbley.

Regarding claim 7, all the limitations were addressed above with respect to claim 4.

Regarding claim 8, it would have been obvious to laminate the subpad and the first adhesive layer by feeding the same through nip rolls because such is a known technique for laminating PSA and substrate materials provided in roll-good form, as taught by Chumbley (Figure 6). As for maintaining the laminated structure exiting the nip rollers substantially horizontally for a time sufficient for the laminated structure to cure such would have been obvious so as to prevent delamination in subsequent processing steps.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jessica L. Rossi** whose telephone number is **571-272-1223**. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard D. Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**JESSICA ROSSI
PRIMARY EXAMINER**

